

WHAT IS CLAIMED IS:

1. A ceiling air-blowing device for a vehicle air conditioner that has an air conditioner unit for air-conditioning a compartment of a vehicle, the device comprising:

a duct through which air from the air conditioner unit flows;  
and

a ceiling wall disposed along a ceiling portion of the vehicle to define an air passage communicating with an end of the duct for receiving the air,

wherein the ceiling wall is formed with a plurality of holes, and openings of the holes are defined on a lower surface of the ceiling wall so that the air flowing through the air passage is blown off into the compartment through the holes,

wherein the holes are disposed such that a total area of the openings of the holes per unit area at a first position that is proximate to the end of the duct is smaller than that at a second position that is farther from the end of the duct than the first position.

2. The device according to claim 1, wherein the holes are formed such that the area of each opening increases with its distance from the end of the duct.

3. The device according to claim 2, wherein the holes are formed such that the area of each opening varies with respect to a transverse direction of the ceiling wall.

4. The device according to claim 2, wherein the holes are formed such that the area of each opening varies with respect to a longitudinal direction of the ceiling wall.

5. The device according to claim 2, wherein the holes are formed such that the area of each opening varies with respect to longitudinal and transverse directions of the ceiling wall.

6. The device according to claim 1, wherein the holes are formed such that the number of holes at the first position is smaller than that at the second position.

7. The device according to claim 1, wherein the duct is arranged to extend along a pillar of the vehicle.

8. A ceiling air-blowing device for a vehicle air conditioner that has an air conditioner unit for air-conditioning a compartment of a vehicle, the device comprising:

a duct communicating with the air conditioner unit; and

a ceiling wall disposed along a ceiling portion of the vehicle to define an air passage communicating with an end of the duct for receiving the air,

wherein the ceiling wall is formed with a plurality of holes, and openings of the holes are defined on a lower surface of the ceiling wall so that the air flowing through the air passage is blown off into the compartment through the holes,

wherein the holes are formed so that an axis of each hole is

disposed such that a flow resistance of air decreases with a distance from the end of the duct.

9. The device according to claim 8, wherein the holes are formed such that in a flow direction of the air passage, the axis of each succeeding hole creates an increasingly larger angle with the air passage.

10. The device according to claim 8, wherein the holes are formed such that in a flow direction of the air passage, the axis of each succeeding hole creates an increasingly larger acute angle with the air passage up to a longitudinal axis of the ceiling wall.

11. A ceiling air-blowing device for a vehicle air conditioner that has an air conditioning unit for air-conditioning a compartment of a vehicle, the device comprising:

an air passage member disposed along a ceiling portion of the vehicle, the air passage member including a first wall member defining a first air passage therein and a second wall member defining a second air passage therein; and

an air-distributing means for switching air distribution to the first passage and the second passage,

wherein the first wall member and the second wall member form a plurality of holes through which air in the first air passage and the second air passage is blown off into the compartment,

wherein the holes are formed such that an axis of each hole of the first wall member and an axis of each hole of the second

wall member are inclined in different directions from each other.

12. The device according to claim 11, further comprising:  
an actuating means for actuating the air-distributing means.

13. The device according to claim 11, wherein the holes are formed such that the axes of the holes of the first wall member and the axes of the holes of the second wall member are inclined in opposite directions from each other with respect to a longitudinal direction of the ceiling portion.

14. The device according to claim 11, wherein the holes are formed such that the axes of the holes of the first wall member and the axes of the holes of the second wall member are inclined in opposite directions from each other with respect to a transverse direction of the ceiling portion.

15. The device according to claim 11,  
wherein the air passage member further includes a third wall member and a fourth wall member each defining an air passage therein through which the air from the air conditioner unit flows, and the third wall member and the fourth wall member form a plurality of holes through which the air is blown off into the passenger compartment,

wherein the holes are formed such that the axes of the holes of the first through fourth wall members are inclined in different directions from one another.

16. The device according to claim 11, further comprising:

a duct through which air from the air conditioner unit flows, wherein the duct is branched into a first branched duct connecting to the first air passage and a second branched duct connecting to the second air passage, and the air-distributing means is disposed at a branched point of the duct.